



Missouri
Department of
Natural Resources

Use Attainability Analysis

for

WBID 0117 Clear Creek

Submitted by

MEC Water Resources

To

Missouri Department of Natural Resources

Water Protection Program

On

May 29, 2008

Field Data Sheets for Recreational Use Stream Surveys

Data Sheet A – Water Body Identification

I. Water Body Information (for water body being surveyed)

Water Body Name (from USGS 7.5' quad): Clear Cr.
Missouri Water Body Identification (WBID) Number: 0117
8-digit HUC: 07110005
County(ies), Listed Upstream to Downstream: Monroe
Upstream Legal Description (from Table H): 27, 56N, 10W
Downstream Legal Description (from Table H): Mouth
Number of sites evaluated: 3
List all site numbers, <u>consecutively upstream to downstream</u> : Site 1: 50 m downstream of County Rd. 311 crossing Site 2: Rt. CC crossing Site 3: County Rd. 360 crossing
Include a Site Location Map(s). The map must include all requirements detailed in the <i>Missouri Recreational Use Attainability Analyses: Water Body Survey and Assessment Protocol</i> (Section IV.D.8.a).

II. Facility Information (list all permitted discharges to this water body segment)

Facility Name(s) and Permit Number(s): Shelbina WWTF MO 0041092

III. UAA Surveyor (please PRINT legibly)

Name of Surveyor: Renee Martin	Telephone Number: 573-875-7844
Organization/Employer: AE Solutions	

Please verify that you have completed all sections of all data sheets, checked all applicable boxes, provided a map (that includes all requirements listed in the *Missouri Recreational Use Attainability Analyses: Water Body Survey and Assessment Protocol*) and that this form is complete.

Signed: _____ Date: _____

Field Data Sheets for Recreational Use Stream Surveys

Data Sheet B – Site Characterization (Page 1 of 3)
(must be completed for each site)

Date & Time: 4/29/2008 7:15	Location Description (e.g., road crossing): 50m dnstream of county Rd. 311
Stream Name: Clear Creek	
Current Weather Conditions: Partly cloudy	Facility Name(s): Shelbina WWTF
Weather Conditions for Past 10 days: 1.82" precipitation	Permit Number(s): MO 0041092
Official Drought Conditions at time of this survey (search DNR home page for "drought"): No drought <input checked="" type="checkbox"/> ; Phase I <input type="checkbox"/> ; Phase II <input type="checkbox"/> ; Phase III <input type="checkbox"/> ; Phase IV <input type="checkbox"/> ; Unknown <input type="checkbox"/>	

Site Location:

LOCATION COORDINATES (UNIVERSAL TRANSVERSE MERCATOR PROJECTION, IN METERS)			
Site 01	Easting (UTM X): 0585564	Northing (UTM Y): 4387080	Horizontal Accuracy: (EPE / FOM / PDOP) 25 Feet
Site 11	Easting (UTM X): 0585696	Northing (UTM Y): 4386973	Horizontal Accuracy: (EPE / FOM / PDOP) 17 Feet

Photos:

Photo ID#	Photo Purpose	Photo ID#	Photo Purpose	Photo ID#	Photo Purpose
2974	Dnstream	2975	Upstream		
Photo ID#	Photo Purpose	Photo ID#	Photo Purpose	Photo ID#	Photo Purpose
Photo ID#	Photo Purpose	Photo ID#	Photo Purpose	Photo ID#	Photo Purpose

Uses Observed*: (Uses actually observed at the time of survey.)

<input type="checkbox"/> Swimming	<input type="checkbox"/> Skin diving	<input type="checkbox"/> SCUBA diving	<input type="checkbox"/> Tubing	<input type="checkbox"/> Water skiing
<input type="checkbox"/> Wind surfing	<input type="checkbox"/> Kayaking	<input type="checkbox"/> Boating	<input type="checkbox"/> Wading	<input type="checkbox"/> Rafting
<input type="checkbox"/> Hunting	<input type="checkbox"/> Trapping	<input type="checkbox"/> Fishing	<input checked="" type="checkbox"/> None of the above	<input type="checkbox"/> Other:
Describe: (Include number of individuals recreating, photo-documentation of evidence of recreational uses, etc. Use <i>Data Sheet D- Recreational Use Interview</i> when conducting interviews.)				

Field Data Sheets for Recreational Use Stream Surveys

Data Sheet B – Site Characterization (Page 2 of 3)

Surrounding Conditions*: (Mark all that promote or impede recreational uses. Attach photos of evidence or unusual items of interest.)

<input type="checkbox"/> City/county parks	<input type="checkbox"/> Playgrounds	<input type="checkbox"/> MDC conservation lands	<input type="checkbox"/> Urban areas	<input checked="" type="checkbox"/> Rural Residential
<input type="checkbox"/> Campgrounds	<input type="checkbox"/> State parks	<input type="checkbox"/> National forests	<input type="checkbox"/> Nature trails	<input type="checkbox"/> Stairs/walkway
<input type="checkbox"/> Boating accesses	<input checked="" type="checkbox"/> Fence	<input type="checkbox"/> No trespass sign	<input type="checkbox"/> Steep slopes	<input type="checkbox"/> Other:
Comments: Private property				

Evidence of Human Use*: (Attach photos and reference in “Photos” section.)

<input checked="" type="checkbox"/> Roads	<input type="checkbox"/> Foot paths/prints	<input type="checkbox"/> Dock/platform	<input type="checkbox"/> Camping Sites	<input type="checkbox"/> Rope swings
<input type="checkbox"/> RV / ATV Tracks	<input type="checkbox"/> Fire pit/ring	<input type="checkbox"/> NPDES Discharge	<input type="checkbox"/> Fishing Tackle	<input checked="" type="checkbox"/> Livestock Watering
<input type="checkbox"/> None of the above	Comments / Other:			

Substrate*: (These values should add up to 100%.)

% Cobble	% Gravel	40% Sand	% Silt	60% Mud/Clay	% Bedrock
----------	----------	----------	--------	--------------	-----------

Aquatic Vegetation*: (Note amount of vegetation or algal growth at the assessment site.)

None

Water Characteristics*: (Mark all that apply.)

Odor:	<input type="checkbox"/> Sewage	<input type="checkbox"/> Musky	<input type="checkbox"/> Chemical	<input checked="" type="checkbox"/> None	<input type="checkbox"/> Other:
Color:	<input checked="" type="checkbox"/> Clear	<input type="checkbox"/> Green	<input type="checkbox"/> Gray	<input type="checkbox"/> Milky	<input type="checkbox"/> Other:
Bottom Deposit:	<input type="checkbox"/> Sludge	<input type="checkbox"/> Solids	<input checked="" type="checkbox"/> Fine sediments	<input type="checkbox"/> None	<input type="checkbox"/> Other:
Surface Deposit:	<input type="checkbox"/> Oil	<input type="checkbox"/> Scum	<input type="checkbox"/> Foam	<input checked="" type="checkbox"/> None	<input type="checkbox"/> Other:

*This information is not to be used solely for removal of a recreational use designation but rather is to provide a more comprehensive understanding of water conditions. Consequently, this information is not intended to directly influence a decision on the recreation use analysis but may point to conditions that need further analysis or that affect another use.

Field Data Sheets for Recreational Use Stream Surveys

Data Sheet B – Site Characterization (Page 3 of 3)

Additional Stream Morphology: (Record isolated pools or other features identified during the survey that may support recreational uses.)

Channel Feature	Distance from access location (m)	Width (m)	Length (m)	Median Depth (m)	Max Depth (m)

Comments: (Please record any additional comments here.)

Please verify that you have completed all sections, checked all applicable boxes, and that the form is complete.

Printed Names of Personnel Collecting Data: _____ Jennifer Hrabik & Renee Martin _____

Surveyor's Signature: _____ Date of Survey: _____

Organization: _____ Position: _____

Field Data Sheets for Recreational Use Stream Surveys

Data Sheet C - Field Survey Results

Stream Name: <u>Clear Creek</u> Waterbody ID: <u>0117</u> Site #: <u>0117 01</u> Estimated Channel Incision: <u>0.5</u> (m) (height between low bank width and water) GPS Location - Easting (UTM X), Northing (UTM Y), Horizontal Accuracy Estimate (EPE / PDOP / FOM) 01 UTM X: <u>585564</u> UTM Y: <u>4387080</u> +/- <u>25</u> (feet) 11 UTM X: <u>585696</u> UTM Y: <u>4386973</u> +/- <u>17</u> (feet) Average Stream Width: <u>5.5</u> (meters) Length of Survey Segment: <u>150</u> (meters) (To determine Length of Reach) (20x average stream width) Field Staff: <u>J. Hrabik & R. Martin</u>	Dissolved Oxygen Date: <u>4/29/2008</u> Time: <u>7:15</u> Dissolved Oxygen: <u>8.5</u> (mg/L) Dissolved Oxygen: <u>75.1</u> (% sat) Specific Cond: <u>412</u> (µS/cm) Water Temperature: <u>9.9</u> (°C)
--	--

Transect Cross-Section

Station	01		02		03		04		05		06		07		08		09		10		11	
	Distance (m)	Depth (m)																				
Left Bank	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1	0.24	0.09	0.60	0.30	0.80	0.30	0.70	0.18	1.20	0.82	0.28	0.28	0.50	0.52	0.44	0.12	0.34	0.20	0.30	0.38	0.53	0.29
2	0.48	0.13	1.20	0.67	1.60	0.45	1.40	0.28	2.40	0.26	0.56	0.51	1.00	0.77	0.88	0.19	0.68	0.46	0.60	0.52	1.06	0.47
3	0.72	0.10	1.80	0.58	2.40	0.53	2.10	0.23	3.60	0.00	0.84	0.68	1.50	0.92	1.32	0.27	1.02	0.54	0.90	0.52	1.59	0.64
4	0.96	0.12	2.40	0.38	3.20	0.58	2.80	0.42	4.80	0.00	1.12	0.71	2.00	0.92	1.76	0.30	1.36	0.50	1.20	0.64	2.12	0.61
5	1.20	0.15	3.00	0.35	4.00	0.62	3.50	0.47	6.00	0.00	1.40	0.68	2.50	0.81	2.20	0.33	1.70	0.52	1.50	0.55	2.65	0.50
6	1.44	0.09	3.60	0.27	4.80	0.65	4.20	0.90	7.20	0.60	1.68	0.70	3.00	0.80	2.64	0.31	2.04	0.55	1.80	0.39	3.18	0.45
7	1.68	0.05	4.20	0.26	5.60	0.54	4.90	>1	8.40	0.44	1.96	0.58	3.50	0.92	3.08	0.50	2.38	0.48	2.10	0.25	3.71	0.39
8	1.92	0.08	4.80	0.19	6.40	0.36	5.60	>1	9.60	0.24	2.24	0.40	4.00	0.52	3.52	0.36	2.72	0.73	2.40	0.17	4.24	0.34
9	2.16	0.07	5.40	0.03	7.20	0.07	6.30	0.88	10.80	0.18	2.52	0.08	4.50	0.40	3.96	0.25	3.06	0.69	2.70	0.06	4.77	0.27
Right Bank	2.40	0.00	6.00	0.00	8.00	0.00	7.00	0.40	12.00	0.00	2.80	0.00	5.00	0.00	4.40	0.00	3.40	0.00	3.00	0.00	5.30	0.00
Feature Type <small>(riffle, run, or pool)</small>	Riffle		Run		Run		Run		Riffle		Run											

rwc

Notes: Transects will be measured beginning on left descending bank (0 depth) and finishing on right descending bank (0 depth). This width is the wetted width
 GPS locations corresponds to Transect 01 and 11. Transects ordered in upstream to downstream order.
 Depth measurements taken at 10 equally spaced locations along transect (determine by dividing wetted width by ten)
 Mark dry depth measurements as 0; record actual measurements to 0.1 meter unless depth is too deep to measure (then record as > 1)
 All measurements to be taken to the nearest 0.01 meter.

Surveyor's Signature: _____ Date: _____

Field Data Sheets for Recreational Use Stream Surveys

Data Sheet B – Site Characterization (Page 1 of 3)

(must be completed for each site)

Date & Time: 4/29/2008 7:15	Location Description (e.g., road crossing):
Stream Name: Clear Creek	Rt. CC Crossing
Current Weather Conditions: Partly cloudy	Facility Name(s): Shelbina WWTF
Weather Conditions for Past 10 days: 1.82" precipitation	Permit Number(s): MO 0041092
Official Drought Conditions at time of this survey (search DNR home page for "drought"): No drought <input checked="" type="checkbox"/> ; Phase I <input type="checkbox"/> ; Phase II <input type="checkbox"/> ; Phase III <input type="checkbox"/> ; Phase IV <input type="checkbox"/> ; Unknown <input type="checkbox"/>	

Site Location:

LOCATION COORDINATES (UNIVERSAL TRANSVERSE MERCATOR PROJECTION, IN METERS)			
Site 01	Easting (UTM X): 0587072	Northing (UTM Y): 4385673	Horizontal Accuracy: (EPE / FOM / PDOP) 35 Feet
Site 11	Easting (UTM X):0587270	Northing (UTM Y): 4385628	Horizontal Accuracy: (EPE / FOM / PDOP) 24 Feet

Photos:

Photo ID#	Photo Purpose	Photo ID#	Photo Purpose	Photo ID#	Photo Purpose
2976	Dnstream	2977	Dnstream	2978	Upstream, fence
Photo ID#	Photo Purpose	Photo ID#	Photo Purpose	Photo ID#	Photo Purpose
2979	Upstream, fence				
Photo ID#	Photo Purpose	Photo ID#	Photo Purpose	Photo ID#	Photo Purpose

Uses Observed*: (Uses actually observed at the time of survey.)

<input type="checkbox"/> Swimming	<input type="checkbox"/> Skin diving	<input type="checkbox"/> SCUBA diving	<input type="checkbox"/> Tubing	<input type="checkbox"/> Water skiing
<input type="checkbox"/> Wind surfing	<input type="checkbox"/> Kayaking	<input type="checkbox"/> Boating	<input type="checkbox"/> Wading	<input type="checkbox"/> Rafting
<input type="checkbox"/> Hunting	<input type="checkbox"/> Trapping	<input type="checkbox"/> Fishing	<input checked="" type="checkbox"/> None of the above	<input type="checkbox"/> Other:
Describe: (Include number of individuals recreating, photo-documentation of evidence of recreational uses, etc. Use <i>Data Sheet D- Recreational Use Interview</i> when conducting interviews.)				

Field Data Sheets for Recreational Use Stream Surveys

Data Sheet B – Site Characterization (Page 2 of 3)

Surrounding Conditions*: (Mark all that promote or impede recreational uses. Attach photos of evidence or unusual items of interest.)

<input type="checkbox"/> City/county parks	<input type="checkbox"/> Playgrounds	<input type="checkbox"/> MDC conservation lands	<input type="checkbox"/> Urban areas	<input checked="" type="checkbox"/> Rural Residential
<input type="checkbox"/> Campgrounds	<input type="checkbox"/> State parks	<input type="checkbox"/> National forests	<input type="checkbox"/> Nature trails	<input type="checkbox"/> Stairs/walkway
<input type="checkbox"/> Boating accesses	<input checked="" type="checkbox"/> Fence	<input type="checkbox"/> No trespass sign	<input type="checkbox"/> Steep slopes	<input type="checkbox"/> Other:
Comments: Private property				

Evidence of Human Use*: (Attach photos and reference in "Photos" section.)

<input checked="" type="checkbox"/> Roads	<input type="checkbox"/> Foot paths/prints	<input type="checkbox"/> Dock/platform	<input type="checkbox"/> Camping Sites	<input type="checkbox"/> Rope swings
<input type="checkbox"/> RV / ATV Tracks	<input type="checkbox"/> Fire pit/ring	<input type="checkbox"/> NPDES Discharge	<input type="checkbox"/> Fishing Tackle	<input checked="" type="checkbox"/> Livestock Watering
<input type="checkbox"/> None of the above	Comments / Other:			

Substrate*: (These values should add up to 100%.)

60% Cobble	10% Gravel	30% Sand	% Silt	% Mud/Clay	% Bedrock
------------	------------	----------	--------	------------	-----------

Aquatic Vegetation*: (Note amount of vegetation or algal growth at the assessment site.)

None

Water Characteristics*: (Mark all that apply.)

Odor:	<input type="checkbox"/> Sewage	<input type="checkbox"/> Musky	<input type="checkbox"/> Chemical	<input checked="" type="checkbox"/> None	<input type="checkbox"/> Other:
Color:	<input checked="" type="checkbox"/> Clear	<input type="checkbox"/> Green	<input type="checkbox"/> Gray	<input type="checkbox"/> Milky	<input type="checkbox"/> Other:
Bottom Deposit:	<input type="checkbox"/> Sludge	<input type="checkbox"/> Solids	<input checked="" type="checkbox"/> Fine sediments	<input type="checkbox"/> None	<input type="checkbox"/> Other:
Surface Deposit:	<input type="checkbox"/> Oil	<input type="checkbox"/> Scum	<input type="checkbox"/> Foam	<input checked="" type="checkbox"/> None	<input type="checkbox"/> Other:

*This information is not to be used solely for removal of a recreational use designation but rather is to provide a more comprehensive understanding of water conditions. Consequently, this information is not intended to directly influence a decision on the recreation use analysis but may point to conditions that need further analysis or that affect another use.

Field Data Sheets for Recreational Use Stream Surveys

Data Sheet B – Site Characterization (Page 3 of 3)

Additional Stream Morphology: (Record isolated pools or other features identified during the survey that may support recreational uses.)

Channel Feature	Distance from access location (m)	Width (m)	Length (m)	Median Depth (m)	Max Depth (m)

Comments: (Please record any additional comments here.)

Please verify that you have completed all sections, checked all applicable boxes, and that the form is complete.

Printed Names of Personnel Collecting Data: _____ Jennifer Hrabik & Renee Martin _____

Surveyor's Signature: _____ Date of Survey: _____

Organization: _____ Position: _____

Field Data Sheets for Recreational Use Stream Surveys

Data Sheet C - Field Survey Results

Stream Name: <u>Clear Creek</u> Waterbody ID: <u>0117</u> Site #: <u>0117 02</u> Estimated Channel Incision: <u>0.5</u> (m) (height between low bank width and water) GPS Location - Easting (UTM X), Northing (UTM Y), Horizontal Accuracy Estimate (EPE / PDOP / FOM) 01 UTM X: <u>587072</u> UTM Y: <u>4385673</u> +/- <u>23</u> (feet) 11 UTM X: <u>587270</u> UTM Y: <u>4385628</u> +/- <u>24</u> (feet) Average Stream Width: <u>9</u> (meters) Length of Survey Segment: <u>180</u> (meters) (To determine Length of Reach) (20x average stream width) Field Staff: <u>J. Hrabik & R.Martin</u>	<h4 style="text-align: center; margin: 0;">Dissolved Oxygen</h4> Date: <u>4/29/2008</u> Time: <u>8:30</u> Dissolved Oxygen: <u>8.03</u> (mg/L) Dissolved Oxygen: <u>79.7</u> (% sat) Specific Cond: <u>383.6</u> (µS/cm) Water Temperature: <u>9.6</u> (°C)
---	---

Transect Cross-Section

Station	01		02		03		04		05		06		07		08		09		10		11	
	Distance (m)	Depth (m)																				
Left Bank	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1	1.33	0.42	1.11	0.05	0.92	0.06	0.50	0.17	0.20	0.07	1.00	0.21	0.85	0.20	1.03	0.31	1.15	0.28	1.12	0.26	0.70	0.19
2	2.66	0.48	2.22	0.10	1.84	0.06	1.00	0.15	0.40	0.17	2.00	0.19	1.70	0.20	2.06	0.45	2.30	0.44	2.24	0.40	1.40	0.10
3	3.99	0.40	3.33	0.15	2.76	0.12	1.50	0.25	0.60	0.23	3.00	0.20	2.55	0.30	3.09	0.51	3.45	0.44	3.36	0.58	2.10	0.17
4	5.32	0.49	4.44	0.17	3.68	0.18	2.00	0.31	0.80	0.23	4.00	0.30	3.40	0.42	4.12	0.50	4.60	0.44	4.48	0.69	2.80	0.20
5	6.65	0.39	5.55	0.26	4.60	0.21	2.50	0.34	1.00	0.21	5.00	0.34	4.25	0.44	5.15	0.48	5.75	0.41	5.60	0.81	3.50	0.17
6	7.98	0.60	6.66	0.20	5.52	0.20	3.00	0.40	1.20	0.27	6.00	0.34	5.10	0.46	6.18	0.46	6.90	0.40	6.72	0.90	4.20	0.19
7	9.31	0.55	7.77	0.32	6.44	0.27	3.50	0.27	1.40	0.30	7.00	0.34	5.95	0.32	7.21	0.27	8.05	0.39	7.84	0.90	4.90	0.29
8	10.64	0.48	8.88	0.23	7.36	0.24	4.00	0.27	1.60	0.30	8.00	0.23	6.80	0.28	8.24	0.26	9.20	0.39	8.96	0.72	5.60	0.25
9	11.97	0.39	9.99	0.17	8.28	0.18	4.50	0.16	1.80	0.23	9.00	0.10	7.65	0.44	9.27	0.08	10.35	0.31	10.08	0.47	6.30	0.10
Right Bank	13.30	0.00	11.10	0.00	9.20	0.00	5.00	0.00	2.00	0.00	10.00	0.00	8.50	0.00	10.30	0.00	11.50	0.00	11.20	0.00	7.00	0.00
Feature Type	Pool		Run		Run		Riffle		Riffle		Run											

rwc

Notes: Transects will be measured beginning on left descending bank (0 depth) and finishing on right descending bank (0 depth). This width is the wetted width
 GPS locations corresponds to Transect 01 and 11. Transects ordered in upstream to downstream order.
 Depth measurements taken at 10 equally spaced locations along transect (determine by dividing wetted width by ten)
 Mark dry depth measurements as 0; record actual measurements to 0.1 meter unless depth is too deep to measure (then record as > 1)
 All measurements to be taken to the nearest 0.01 meter.

Surveyor's Signature: _____ Date: _____

Field Data Sheets for Recreational Use Stream Surveys

Data Sheet B – Site Characterization (Page 1 of 3)
(must be completed for each site)

Date & Time: 4/29/2008 7:15	Location Description (e.g., road crossing):
Stream Name: Clear Creek	County Rd 360 Crossing
Current Weather Conditions: Partly cloudy	Facility Name(s): Shelbina WWTF
Weather Conditions for Past 10 days: 1.82" precipitation	Permit Number(s): MO 0041092
Official Drought Conditions at time of this survey (search DNR home page for "drought"): No drought <input checked="" type="checkbox"/> ; Phase I <input type="checkbox"/> ; Phase II <input type="checkbox"/> ; Phase III <input type="checkbox"/> ; Phase IV <input type="checkbox"/> ; Unknown <input type="checkbox"/>	

Site Location:

LOCATION COORDINATES (UNIVERSAL TRANSVERSE MERCATOR PROJECTION, IN METERS)			
Site 01	Easting (UTM X): 0589099	Northing (UTM Y): 4383587	Horizontal Accuracy: (EPE / FOM / PDOP) 39 Feet
Site 11	Easting (UTM X): 0589138	Northing (UTM Y): 4383406	Horizontal Accuracy: (EPE / FOM / PDOP) 28 Feet

Photos:

Photo ID#	Photo Purpose	Photo ID#	Photo Purpose	Photo ID#	Photo Purpose
2980	Dnstream	2981	Upstream		
Photo ID#	Photo Purpose	Photo ID#	Photo Purpose	Photo ID#	Photo Purpose
Photo ID#	Photo Purpose	Photo ID#	Photo Purpose	Photo ID#	Photo Purpose

Uses Observed*: (Uses actually observed at the time of survey.)

<input type="checkbox"/> Swimming	<input type="checkbox"/> Skin diving	<input type="checkbox"/> SCUBA diving	<input type="checkbox"/> Tubing	<input type="checkbox"/> Water skiing
<input type="checkbox"/> Wind surfing	<input type="checkbox"/> Kayaking	<input type="checkbox"/> Boating	<input type="checkbox"/> Wading	<input type="checkbox"/> Rafting
<input type="checkbox"/> Hunting	<input type="checkbox"/> Trapping	<input type="checkbox"/> Fishing	<input checked="" type="checkbox"/> None of the above	<input type="checkbox"/> Other:
Describe: (Include number of individuals recreating, photo-documentation of evidence of recreational uses, etc. Use <i>Data Sheet D- Recreational Use Interview</i> when conducting interviews.)				

Field Data Sheets for Recreational Use Stream Surveys

Data Sheet B – Site Characterization (Page 2 of 3)

Surrounding Conditions*: (Mark all that promote or impede recreational uses. Attach photos of evidence or unusual items of interest.)

<input type="checkbox"/> City/county parks	<input type="checkbox"/> Playgrounds	<input type="checkbox"/> MDC conservation lands	<input type="checkbox"/> Urban areas	<input type="checkbox"/> Rural Residential
<input type="checkbox"/> Campgrounds	<input type="checkbox"/> State parks	<input type="checkbox"/> National forests	<input type="checkbox"/> Nature trails	<input type="checkbox"/> Stairs/walkway
<input type="checkbox"/> Boating accesses	<input type="checkbox"/> Fence	<input checked="" type="checkbox"/> No trespass sign	<input checked="" type="checkbox"/> Steep slopes	<input type="checkbox"/> Other:
Comments: Private property				

Evidence of Human Use*: (Attach photos and reference in "Photos" section.)

<input checked="" type="checkbox"/> Roads	<input type="checkbox"/> Foot paths/prints	<input type="checkbox"/> Dock/platform	<input type="checkbox"/> Camping Sites	<input type="checkbox"/> Rope swings
<input type="checkbox"/> RV / ATV Tracks	<input type="checkbox"/> Fire pit/ring	<input type="checkbox"/> NPDES Discharge	<input type="checkbox"/> Fishing Tackle	<input type="checkbox"/> Livestock Watering
<input type="checkbox"/> None of the above	Comments / Other:			

Substrate*: (These values should add up to 100%.)

60% Cobble	30% Gravel	10% Sand	% Silt	% Mud/Clay	% Bedrock
------------	------------	----------	--------	------------	-----------

Aquatic Vegetation*: (Note amount of vegetation or algal growth at the assessment site.)

Sparse benthic algae

Water Characteristics*: (Mark all that apply.)

Odor:	<input type="checkbox"/> Sewage	<input type="checkbox"/> Musky	<input type="checkbox"/> Chemical	<input checked="" type="checkbox"/> None	<input type="checkbox"/> Other:
Color:	<input checked="" type="checkbox"/> Clear	<input type="checkbox"/> Green	<input type="checkbox"/> Gray	<input type="checkbox"/> Milky	<input type="checkbox"/> Other:
Bottom Deposit:	<input type="checkbox"/> Sludge	<input type="checkbox"/> Solids	<input checked="" type="checkbox"/> Fine sediments	<input type="checkbox"/> None	<input type="checkbox"/> Other:
Surface Deposit:	<input type="checkbox"/> Oil	<input type="checkbox"/> Scum	<input type="checkbox"/> Foam	<input checked="" type="checkbox"/> None	<input type="checkbox"/> Other:

*This information is not to be used solely for removal of a recreational use designation but rather is to provide a more comprehensive understanding of water conditions. Consequently, this information is not intended to directly influence a decision on the recreation use analysis but may point to conditions that need further analysis or that affect another use.

Field Data Sheets for Recreational Use Stream Surveys

Data Sheet B – Site Characterization (Page 3 of 3)

Additional Stream Morphology: (Record isolated pools or other features identified during the survey that may support recreational uses.)

Channel Feature	Distance from access location (m)	Width (m)	Length (m)	Median Depth (m)	Max Depth (m)

Comments: (Please record any additional comments here.)

Please verify that you have completed all sections, checked all applicable boxes, and that the form is complete.

Printed Names of Personnel Collecting Data: _____ Jennifer Hrabik & Renee Martin _____

Surveyor's Signature: _____ Date of Survey: _____

Organization: _____ Position: _____

Field Data Sheets for Recreational Use Stream Surveys

Data Sheet C - Field Survey Results

Stream Name: <u>Clear Creek</u> Waterbody ID: <u>0117</u> Site #: <u>0117 03</u> Estimated Channel Incision: <u>0.2</u> (m) (height between low bank width and water) GPS Location - Easting (UTM X), Northing (UTM Y), Horizontal Accuracy Estimate (EPE / PDOP / FOM) 01 UTM X: <u>589099</u> UTM Y: <u>9383587</u> +/- <u>39</u> (feet) 11 UTM X: <u>589138</u> UTM Y: <u>4383406</u> +/- <u>28</u> (feet) Average Stream Width: <u>9.5</u> (meters) Length of Survey Segment: <u>190</u> (meters) (To determine Length of Reach) (20x average stream width) Field Staff: <u>J. Hrabik and R. Martin</u>	Dissolved Oxygen
	Date: <u>4/29/2008</u> Time: <u>9:15</u>
	Dissolved Oxygen: <u>10.81</u> (mg/L)
	Dissolved Oxygen: <u>93.7</u> (% sat)
	Specific Cond: <u>373</u> (µS/cm)
	Water Temperature: <u>9</u> (°C)

Transect Cross-Section

Station	01		02		03		04		05		06		07		08		09		10		11	
	Distance (m)	Depth (m)																				
Left Bank	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1	0.95	0.07	1.00	0.03	0.80	0.05	0.98	0.29	0.90	0.08	1.15	0.10	0.78	0.27	0.90	0.19	0.88	0.06	1.08	0.06	0.80	0.06
2	1.90	0.20	2.00	0.09	1.60	0.37	1.96	0.27	1.80	0.10	2.30	0.12	1.56	0.31	1.80	0.21	1.76	0.15	2.16	0.05	1.60	0.08
3	2.85	0.12	3.00	0.10	2.40	0.44	2.94	0.46	2.70	0.20	3.45	0.12	2.34	0.31	2.70	0.20	2.64	0.15	3.24	0.10	2.40	0.17
4	3.80	0.12	4.00	0.06	3.20	0.51	3.92	0.26	3.60	0.15	4.60	0.04	3.12	0.26	3.60	0.15	3.52	0.13	4.32	0.08	3.20	0.15
5	4.75	0.16	5.00	0.07	4.00	0.52	4.90	0.24	4.50	0.10	5.75	0.03	3.90	0.23	4.50	0.16	4.40	0.14	5.40	0.12	4.00	0.15
6	5.70	0.15	6.00	0.09	4.80	0.69	5.88	0.31	5.40	0.03	6.90	0.02	4.68	0.24	5.40	0.10	5.28	0.18	6.48	0.10	4.80	0.06
7	6.65	0.06	7.00	0.09	5.60	0.54	6.86	0.30	6.30	0.02	8.05	0.01	5.46	0.10	6.30	0.08	6.16	0.18	7.56	0.08	5.60	0.07
8	7.60	0.06	8.00	0.23	6.40	0.38	7.84	0.28	7.20	0.01	9.20	0.00	6.24	0.04	7.20	0.08	7.04	0.18	8.64	0.06	6.40	0.04
9	8.55	0.03	9.00	0.20	7.20	0.17	8.82	0.26	8.10	0.02	10.35	0.01	7.02	0.01	8.10	0.04	7.92	0.26	9.72	0.13	7.20	0.03
Right Bank	9.50	0.00	10.00	0.00	8.00	0.00	9.80	0.00	9.00	0.00	11.50	0.00	7.80	0.00	9.00	0.00	8.80	0.00	10.80	0.00	8.00	0.00
Feature Type	Run		Riffle		Run		Run		Run		Riffle		Run		Run		Run		Riffle		Riffle	

rwc

Notes: Transects will be measured beginning on left descending bank (0 depth) and finishing on right descending bank (0 depth). This width is the wetted width
 GPS locations corresponds to Transect 01 and 11. Transects ordered in upstream to downstream order.
 Depth measurements taken at 10 equally spaced locations along transect (determine by dividing wetted width by ten)
 Mark dry depth measurements as 0; record actual measurements to 0.1 meter unless depth is too deep to measure (then record as > 1)
 All measurements to be taken to the nearest 0.01 meter.

Surveyor's Signature: _____ Date: _____

AES

WBID # 0117

Site # 1

DN STREAM



AES

WBID # 0117

Site # 1

UP STREAM

WBID # 0117
Site # 2
Dnstream





WBID #0117
Site #2
Downstream

AES

WBID # 0117

Site # 2

Upstream
Fence

BOARD
WHITE

A photograph of a concrete bridge spanning a river. The bridge has three visible piers. The water is calm and reflects the sky and trees. The banks are lined with trees, some with green leaves and some bare. On the right bank, there is a metal fence. The sky is clear and blue.

WBID #0117
Site #2
Upstream-
Fence



AES

WBID # 0117

SITE # 3

DN STREAM

AES
WBID # 0117

SITE # 3

UP STREAM